SHOULDERS UNDER BRIDGES

GUIDE FOR PAVING

METHOD I

PAVED SHOULDER WIDTH

ROADWAY PAVEMENT

Paved Shoulders

Precast Concrete Barrier, Single Faced

Minimum 12" Height Expansion Joint Material Between Face of Pier and Slope Protection Toe.

Bridge Pier

4" Slope Protection (See Structure Plans)

Separate Concrete Slope Protection from Bridge Pier with 1" Expansion Joint Material (Minimum 4" Length).

1" Exp. Joint Material

E.O.L.

F.O.L.

200' Taper

25'

Width of Slope Protection

(See Structure Plans)

25'

200' Taper

End of 4" Slope Protection

Paved Shoulder Width

NOTES:

Pave the full width of the shoulder as shown with shoulder pavement material as shown on plans.

*Offset based on structure policy (See Structure Plans).

Protect slope with reinforced concrete paving. Concrete block paving will not be permitted.

RALEIGH, N.C.

NORTH CAROLINA DIVISION OF HIGHWAYS

DEPT. OF TRANSPORTATION

STATE OF NORTH CAROLINA

ENGLISH STANDARD DRAWING FOR PAVING SHOULDERS UNDER BRIDGES

METHOD I
ELEVATION

GUIDE FOR PAVING SHOULDERS UNDER BRIDGES

METHODOLOGY

- E.O.L.
- END OF 4" SLOPE PROTECTION
- GUARDRAIL
- METHOD II

NOTES:

- PAVE THE FULL WIDTH OF THE SHOULDER AS SHOWN WITH SHOULDER PAVEMENT MATERIAL AS SHOWN ON PLANS.
- OFFSET BASED ON STRUCTURE POLICY (SEE STRUCTURE PLANS).
- PROTECT SLOPE WITH REINFORCED CONCRETE PAVING. CONCRETE BLOCK PAVING WILL NOT BE PERMITTED.
VERTICAL CURVE OFFSET

FOR 6' V.C. AT BRIDGES

<table>
<thead>
<tr>
<th>HEIGHT OF HORIZONTAL CURVE</th>
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<tbody>
<tr>
<td>1'  2'  3'  4'  5'  6'  7'  8'</td>
</tr>
<tr>
<td>0.26' 0.27' 0.27' 0.28' 0.28' 0.28' 0.28' 0.28'</td>
</tr>
<tr>
<td>0.42' 0.43' 0.44' 0.44' 0.45' 0.45' 0.45' 0.45'</td>
</tr>
<tr>
<td>0.57' 0.58' 0.59' 0.59' 0.60' 0.60' 0.60' 0.60'</td>
</tr>
<tr>
<td>0.72' 0.73' 0.73' 0.74' 0.74' 0.74' 0.74' 0.74'</td>
</tr>
<tr>
<td>0.87' 0.88' 0.88' 0.88' 0.88' 0.88' 0.88' 0.88'</td>
</tr>
</tbody>
</table>

NOTES:
- PAVE THE FULL WIDTH OF THE SHOULDER AS SHOWN WITH SHOULDER PAVEMENT MATERIAL AS SHOWN ON PLANS.
- OFFSET BASED ON BRIDGE POLICY (SEE BRIDGE PLANS).
- PROTECT SLOPE WITH REINFORCED CONCRETE PAVING. CONCRETE BLOCK PAVING WILL NOT BE PERMITTED.
- OFFSETS FOR 6' V.C. DENOTES FINISHED GRADE OF SLOPE PROTECTION.
PAVEMENT REPAIRS ON ROADS TO BE RESURFACED
(PIPE IS PLACED UNDER EXISTING PAVEMENT)

<table>
<thead>
<tr>
<th>D</th>
<th>X</th>
<th>W</th>
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</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td>1'-4&quot;</td>
<td>7'-4&quot;</td>
</tr>
<tr>
<td>15&quot;</td>
<td>1'-7&quot;</td>
<td>7'-7&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>1'-10&quot;</td>
<td>7'-10&quot;</td>
</tr>
</tbody>
</table>
| 24"| 2'-6" | 8'-6"
| 30"| 3'-1" | 9'-1"
| 36"| 3'-8" | 9'-8"
| 42"| 4'-5" | 10'-5"|
| 48"| 5'-0" | 11'-0"

PAVEMENT REPAIRS ON ROADS NOT TO BE RESURFACED
(PIPE IS TO BE PLACED UNDER EXISTING PAVEMENT)
MILLED RUMBLE STRIPS
ASPHALT SHOULDERS

MILLED RUMBLE STRIPS
SEEN MILLING DETAIL
12" TYP.
7" TYP.

EDGE OF PAVED SHOULDER
6" OFFSET
RUMBLE STRIP

WIDTH OF PAVED SHOULDER

*FOR WIDTHS SEE TYPICAL SECTIONS AND PLAN SHEETS

PLAN VIEW
PAVED SHOULDER

PLAN VIEW
MILLING DETAIL

SECTION A-A

SECTION B-B

LANE TREATMENT

MILLED RUMBLE STRIPS ON PAVED SHOULDERS

EOPS

EOPS

ASPHALT PAVEMENT

12" 7"

12"

16"

12"

ASPHALT PAVEMENT

ENGLISH STANDARD DRAWING FOR ASPHALT SHOULDERS MILLED RUMBLE STRIPS
MILLED RUMBLE STRIPS

ASPHALT SHOULders

MILLED RUMBLE STRIPS

TREATMENT AT RAMP TERMINALS

BEGIN RUMBLE STRIPS ON RAMP SHOULDER

ACCELERATION RAMP

END RUMBLE STRIPS ON MAINLINE SHOULDER

DECELERATION RAMP

50'

BEGIN RUMBLE STRIPS ON MAINLINE SHOULDER

END RUMBLE STRIPS ON RAMP SHOULDER

TREATMENT AT LOOP TERMINALS

BEGIN RUMBLE STRIPS ON LOOP PAVEMENT WHERE TRANSITION BECOMES 4'-0"

ACCELERATION LOOP

END RUMBLE STRIPS ON MAINLINE SHOULDER

DECELERATION LOOP

BEGIN RUMBLE STRIPS ON MAINLINE SHOULDER

TAPER TO CURB & GUTTER

END RUMBLE STRIPS

TREATMENT AT INTERSECTIONS

(Roadway or Driveway)

BEGIN RUMBLE STRIPS

25' BEFORE RADIUS

END RUMBLE STRIPS

25' AFTER RADIUS

25'

* TERMINATE AT DRIVEWAYS AS DIRECTED BY THE ENGINEER.

END RUMBLE STRIPS ON RAMP SHOULDER